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Page 1 of 13

AMENDMENTS TO THE CLAIMS

Claims 1-66 (canceled).

Claim 67 (previously presented): A method that is diagnostic or diagnostic and prognostic for precancer or cancer comprising contacting a mammalian sample with a potent MN/CA IX-specific inhibitor conjugated to a label or a visualizing means, and detecting or detecting and quantifying binding of said potent MN/CA IX-specific inhibitor to MN/CA IX on cells in said sample by detecting or detecting and quantifying said label or said visualizing means on cells in said sample, wherein said detection or said detection and quantitation at a level above that for a control sample is indicative of precancerous or cancerous cells that overexpress MN/CA IX in said sample;

wherein said inhibitor is selected from the group consisting of organic heterocyclic and aromatic compounds, and wherein said inhibitor is determined to be a potent inhibitor of MN/CA IX enzymatic activity in a screening assay comprising determining the inhibition constant K_i of said compound;

wherein if said inhibition constant K_i is determined to be less than about 50 nanomolar, said inhibitor is determined be a potent inhibitor of MN/CA IX enzymatic activity; and